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Version No.				
4	2	0	7	3

ROLL NUMBER						

COMPUTER SCIENCE
HSSC-II

SECTION – A (Marks 13)

Time allowed: 20 Minutes

Section – A is compulsory. All parts of this section are to be answered on this page and handed over to the Centre Superintendent. Deleting/overwriting is not allowed.

Do not use lead pencil.

حصہ اوّل لازمی ہے۔ اس کے جوابات اسی صفحہ پر دے کر ناظم مرکز کے حوالے کریں۔ کاٹ کر دوبارہ لکھنے کی اجازت نہیں ہے۔ لیڈ پنسل کا استعمال ممنوع ہے۔

Answer Sheet No. _____

ہر سوال کے سامنے دیے گئے، کریکولم کے مطابق درست دائرہ کو پُر کریں۔ **Invigilator Sign.** _____

Fill the relevant bubble against each question according to curriculum: **Candidate Sign.** _____

	Question	A	B	C	D	A	B	C	D
1.	Which of following is the valid process state transition?	Terminated to running state	Running to ready state	Ready to blocked state	Blocked to running state	○	○	○	○
2.	Preprocessor directive starts with:	?	~	#	{ }	○	○	○	○
3.	Which of the following escape sequences is used to play a beep sound during execution?	'\b'	'\a'	'\r'	'\n'	○	○	○	○
4.	Which of the following is a valid case statement is switch statement?	case 20:	case 1.5:	case 'ab':	case x>10:	○	○	○	○
5.	What happens to the value of a static variable between function call?	It is deleted from memory after returning from function	It is only accessible in other files	It gets reset to its initial value	It retains its previous value	○	○	○	○
6.	Which of the following is reference operator?	*	&	?	#	○	○	○	○
7.	Which is correct way to declare destructor?	`*A()`	`void A()`	`A()`	`~A()`	○	○	○	○
8.	When reading one character at a time from a file the following function is used:	`fputs()`	`fgets()`	`put()`	`get()`	○	○	○	○
9.	`char name[20]="FBISE 2025";` `cout<<strlen(name);` will display:	11	20	9	10	○	○	○	○
10.	Which statement will print the natural numbers from 1 to 10?	`for(i=10; i<=1; i++) cout<<i<< "\t";`	`for(i=1; i<10; i++) cout<<i<< "\t";`	`for (i=1; i<=10; i++) cout<<i<< "\t";`	`for(i=1;i >=10;i++) cout<<i<< "\t";`	○	○	○	○
11.	`a++;` can also be written as:	`1+=a;`	`1=+a;`	`a=+1;`	`a+=1;`	○	○	○	○
12.	In which operating system job runs at different locations (computers) in a network?	Distributed	Embedded	Batch processing	Multitasking	○	○	○	○
13.	Which phase of SDLC is used to assess the strengths and weaknesses of a **proposed system**?	Design phase	Requirement Engineering phase	Feasibility phase	Testing phase	○	○	○	○

COMPUTER SCIENCE HSSC–II

Time allowed: 2:40 Hours **Total Marks Sections B and C: 62**

SECTION – B (Marks 42)

Q. 2 Answer the following parts briefly. **14x3=42**

(i)	Write down any three advantages of using Time-sharing operating system over batch processing operating system.	03	OR	What is implementation method in SDLC? Compare parallel and phased implementation methods.	1+2
(ii)	Why is operating system important for process management? Give three reasons.	03	OR	Why is testing of system important in SDLC? Give three reasons.	03

(iii)	Rewrite `z=(a<b)? a+b:a-b;` using if-else structure.	03	OR	Predict the output of following code segment:
				`int a=50,b=3,c=15;`
				`cout<<a*b+c<<"\t"<<c/a-3<<"\t"<<b%a;`
					03

(iv)	What will be the output of following code segment using?
	`for(int c=1;c<=3;c++)`
	`cout<<c*3-1<<endl;`
		03	OR	Write down the function prototype, having name **swap** with two floating point reference parameters and no return type.	03

(v)	What will be displayed after executing the following code segment?
	`int x=5, y=10, z;`
	`z= ++x * y--;`
	`cout << x << "\t"<< y <<"\t" << z;`
		03	OR	Write C++ statements for following:
				a. Declare an array to store integer numbers in 3x2 matrix
				b. Store 51 at last location of array.
				c. Display element present at 2nd row and 1st column.
					03

(vi)	What is the advantage of using void pointer? Give an example of void pointer declaration.	03	OR	Why is `cin.get()` used instead of `cin` when working with string?	03

(vii)	What will be the output of the following program segment?
	`for(n=1;n<=10; n++)`
	`{`
	`if(n>3 && n<8)`
	`continue;`
	`cout<<n<<"\t"; }`
		03	OR	Compare private and public access specifiers with respect to accessibility:
				a. In the same class
				b. In derived class
				c. Outside the class
					03

(viii)	Why are `a+3`, `float` and `3af` invalid variable names?	03	OR	Write three differences between formal and actual parameters.	03
(ix)	How polymorphism is achieved in C++? Enlist three ways.	03	OR	Why **switch statement** is preferable over **else-if statement**? Give any three reasons.	03
(x)	Differentiate between pre-test and post-test loops with examples.	2+1	OR	Differentiate between `strcat()` and `strcpy()` with examples.	1+2
(xi)	What is inline function? Why is it used in C++?	1+2	OR	Differentiate between `break` and `exit()` with examples.	03
(xii)	Enlist the parts of **function signature** with their purpose.	03	OR	What are control statements? Give two examples.	2+1
(xiii)	Write down the purpose of asterisk `(*)` in following statements: **a.** `meters = km * 100;` **b.** `int *p=&n;` **c.** `*p=100;`	03	OR	Write three differences between Binary and Text files.	03
(xiv)	What is the purpose of assignment operator? Give one example.	2+1	OR	Briefly explain the purpose of any three file opening modes.	03

SECTION – C (Marks 20)

Note: Attempt the following questions. **(5x4=20)**

Q.3	How are Project Manager and System Analyst responsible for efficient working and development of a system? Explain at least five aspects of each.	2.5+ 2.5	OR	Explain constructor and destructor class member functions with examples.	2.5+ 2.5
Q.4	Describe five states of a process. Also write down any five differences between thread and process.	2.5+ 2.5	OR	Write purpose of any five of the following C++ statements: **a.** `#include<fstream.h>` **b.** `fstream fp;` **c.** `fp.open("abc.txt");` **d.** `fp.close();` **e.** `if(!fp).....` **f.** `while(! fp.eof())`	05
Q.5	Write a C++ program that reads a character and prints whether it is **uppercase**, **lowercase** or a **digit**.	05	OR	Write a C++ program having **two functions** to calculate sum of **two numbers** and sum of **three numbers** respectively. (Use the concept of function overloading by defining functions with same name and different parameters)	05
Q.6	Write a C++program to take input weight in kg convert it into grams and pounds and display grams and pounds. (1 kg =1000 grams 1 pound=454 grams)	05	OR	Write a C++ program that inputs ten numbers in array and displays largest number in the array.	05